Methods and materials for chlorophyll data collection

Sites 2, 4 and 6 on long Island and Marsh creeks were chosen as the best representation of the two creeks. It would have been logistically unfeasible to collect and analyze samples from all 6 sites on each creek and these sites provided relatively evenly spaced sites with water volumes sufficient to collect from. The headwater sites (1) wear limited by the amount of flowing water available at any given time.

Samples were collected mid stream, mid depth and in triplicate at each site. The samples were collected in pre-labeled, pre-cleaned, plastic 500ml bottles. These bottles were kept on ice and in the dark until and during processing and analyzation to prevent post extraction degradation of any pigments. A carefully regulated amount of the sample water was subjected to vacuum filtration through 0.7 micron glass fiber filters. These filters were then soaked in acetone for 18 hours in a -10 °C freezer and were then centrifuged at 4000 rpm for 10 minutes, decanted into a quartz crystal cuvette and subjected to photo spectroscopy. The absorbance was measured at 750nm and 665nm. The absorbance at 665nm is the absorbance maxima for the chlorophyll molecule and the absorbance at 750nm is taken and subtracted from the absorbance at 665nm to account for suspended solids in the supernatant. The % absorbance measured specific to chlorophyll is then multiplied by a coefficient (11) and the volume of acetone (5ml) used to extract it and this number is divided by the volume of water filtered (.125- .25L) and the path-length of the cuvette (1cm). The resulting quotient is the amount of chlorophyll in mg/L. The mean value of the three samples is then reported as the average total chlorophyll. This measurement is accepted as a direct correlation to the amount of phytoplankton present in the water.